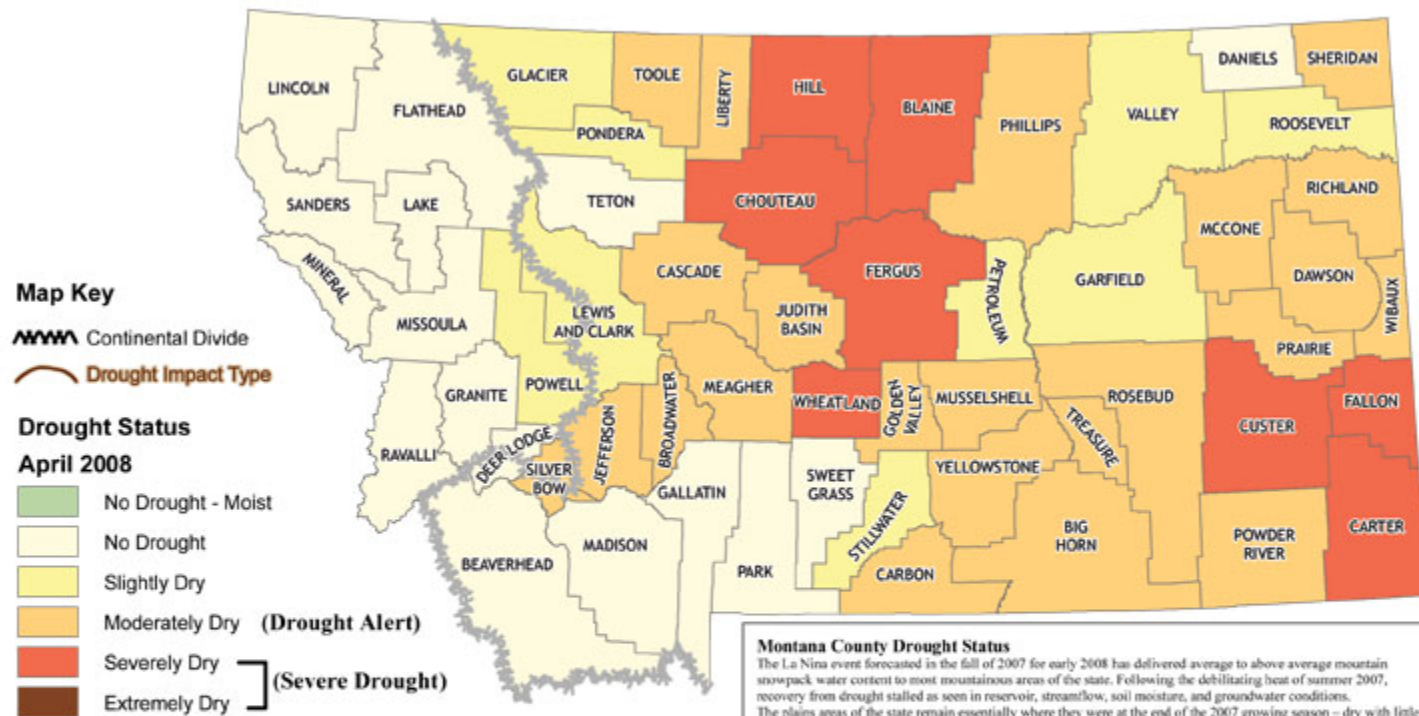


Montana Drought Status - April

Montana Drought Status by County - April, 2008



Drought Impact Types - A = Agricultural - Soil Moisture, Range conditions

H = Hydrological - Water Supplies, Streamflow, Groundwater

Drought Alert - Governor's Drought Advisory Committee strongly encourages local officials to convene local drought committees.

Severe Drought - Local officials should have local drought planning efforts underway or should reconvene the local drought committee at the earliest opportunity.

For recommended responses, see the Montana Drought Plan.



<http://nr.is.mt.gov/drought/>



<http://drought.mt.gov/>

Montana County Drought Status

The La Nina event forecasted in the fall of 2007 for early 2008 has delivered average to above average mountain snowpack water content to most mountainous areas of the state. Following the debilitating heat of summer 2007, recovery from drought stalled as seen in reservoir, streamflow, soil moisture, and groundwater conditions. The plains areas of the state remain essentially where they were at the end of the 2007 growing season - dry with little snow cover. The period from December through March brings only about two to three inches in a normal year to plains and valley elevations and spring storms will be important to recovery in these areas. But the water supply outlook looks very favorable as of mid-February for surface water dependent valleys on both sides of the Continental Divide as the mountains reach the two-third mark of the snow water accumulation period for the water year. The concern at this time is whether the state will experience an early snowmelt of mountain snowpack, as in 2007, or a normal runoff period from mid-May through June.

The Governor's Drought Advisory Committee assesses water supply and moisture conditions on a monthly basis to determine drought status for each county of the state. The drought status map is used primarily to promote awareness of drought and to alert Montanans to impending drought conditions so they may respond appropriately.

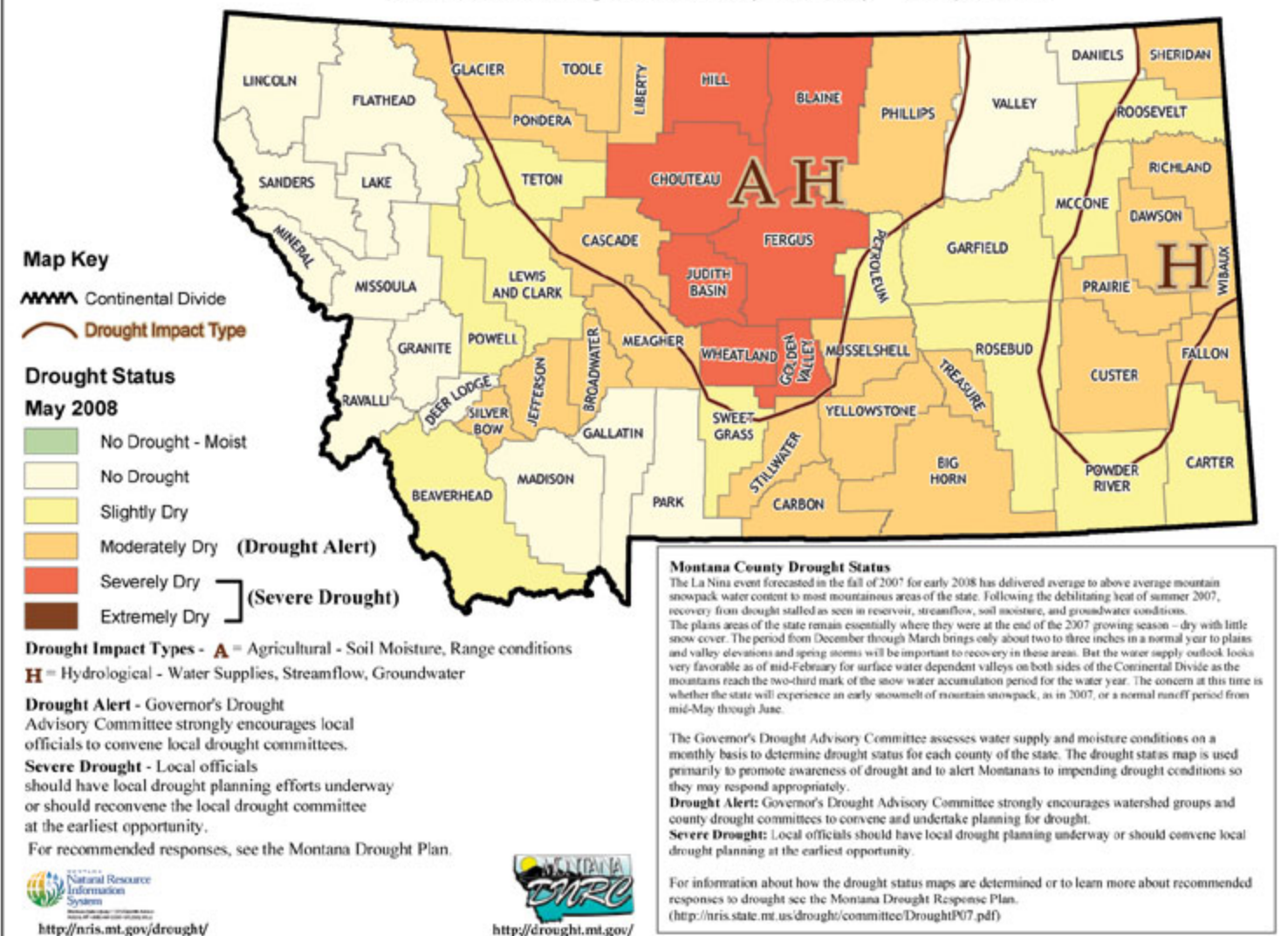
Drought Alert: Governor's Drought Advisory Committee strongly encourages watershed groups and county drought committees to convene and undertake planning for drought.

Severe Drought: Local officials should have local drought planning underway or should convene local drought planning at the earliest opportunity.

For information about how the drought status maps are determined or to learn more about recommended responses to drought see the Montana Drought Response Plan.
(<http://nr.is.state.mt.us/drought/committee/DroughtP07.pdf>)

Montana Drought Status - May

Montana Drought Status by County - May, 2008





Governor's Drought Advisory Committee Meeting

May 21, 2008

National Weather Service

Gina Loss

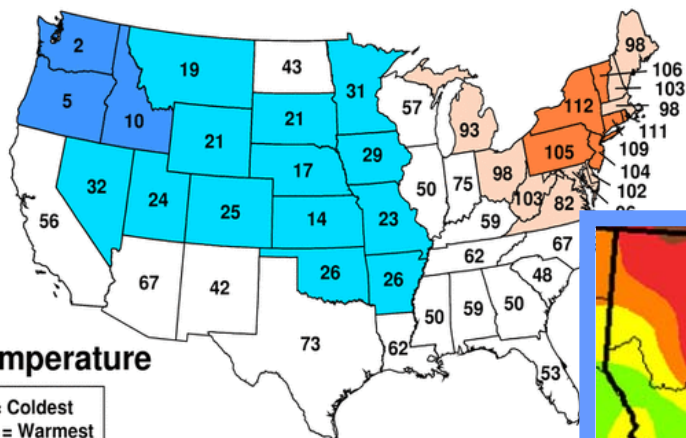
April 2008

Temperature Ranking and Percent of Normal Precipitation

19th coldest

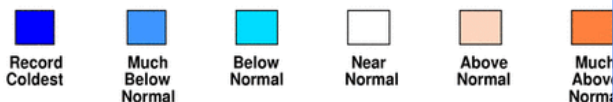
April 2008 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA

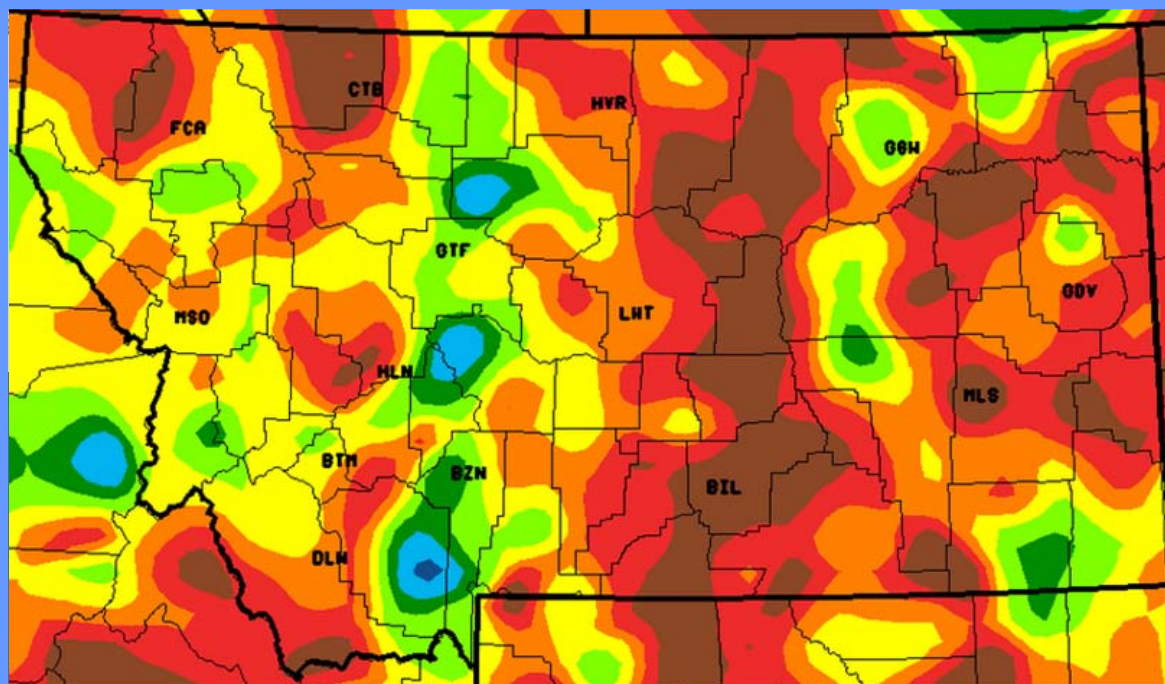


Temperature

1 = Coldest
114 = Warmest



- Only isolated areas near to above normal
- Fairly large areas less than 20% of normal...mainly central and east



April 2008 Percent of Normal Precipitation
Period of Normal: 1971-2000

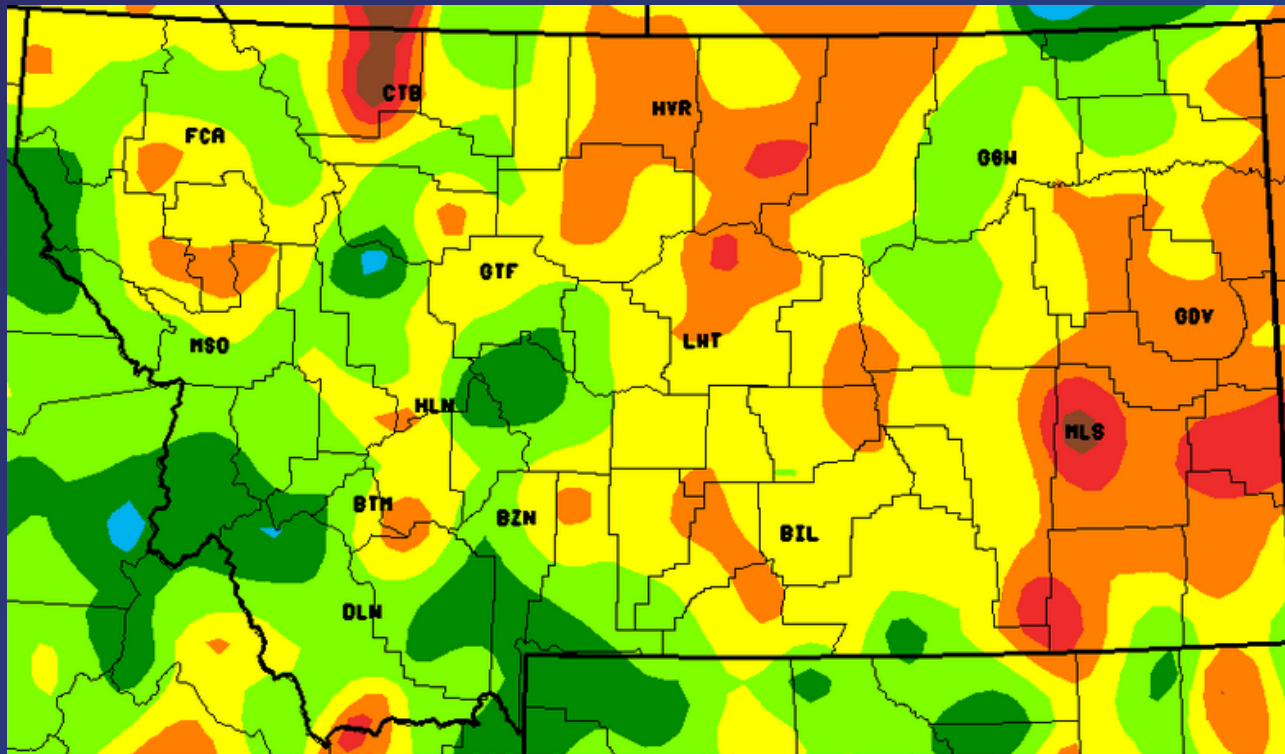
20 40 60 85 115 150 200

NOTE: Data used to generate this image are
PROVISIONAL AND SUBJECT TO CHANGE.

<http://www.wrh.noaa.gov/Greatfalls>

Percent of Normal Precipitation

Water Year 2008



Oct 2007-Apr 2008 Percent of Normal Precipitation

Period of Normal: 1971-2000

20 40 60 85 115 150 200

NOTE: Data used to generate this image are
PROVISIONAL AND SUBJECT TO CHANGE.

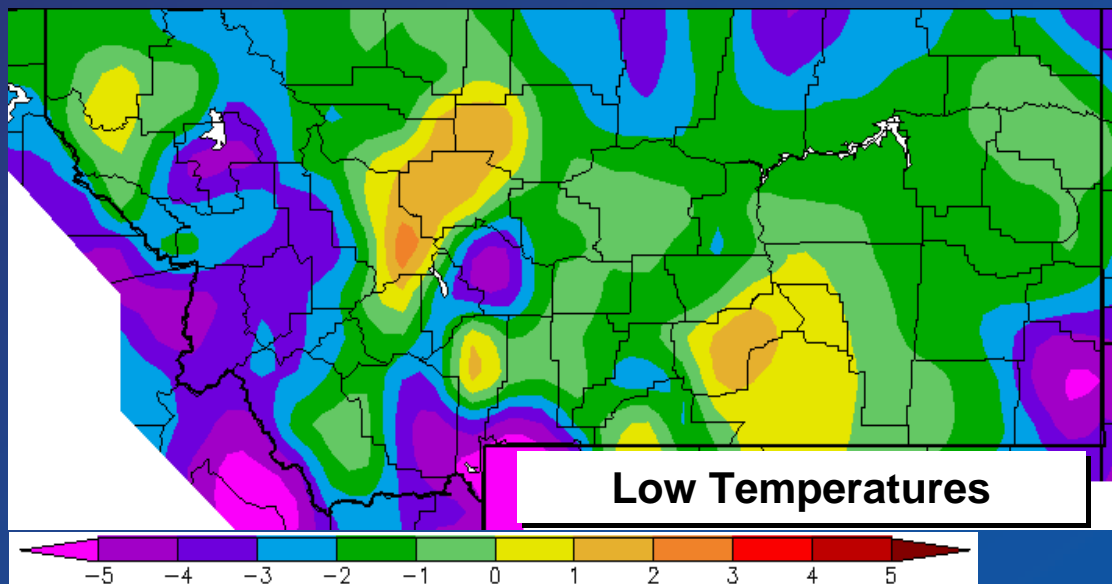
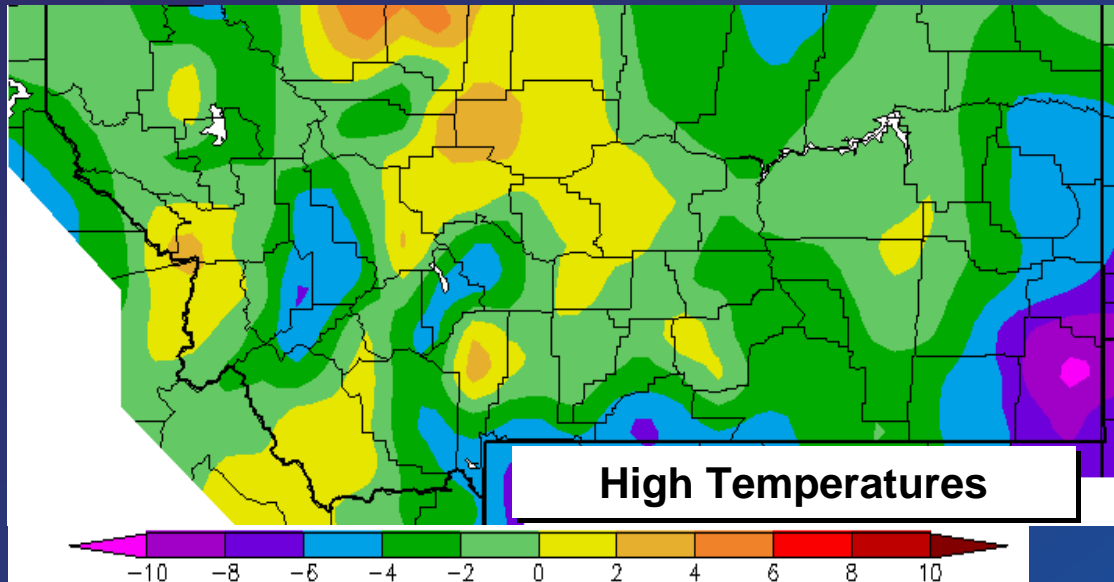
<http://www.wrh.noaa.gov/Greatfalls>

- October – April
- Most of west and southwest Montana averaged near normal
 - *Small areas above normal southwest*
- Central and eastern Montana averaging below normal
 - *Areas well below normal north central and east*

Temperature Anomalies

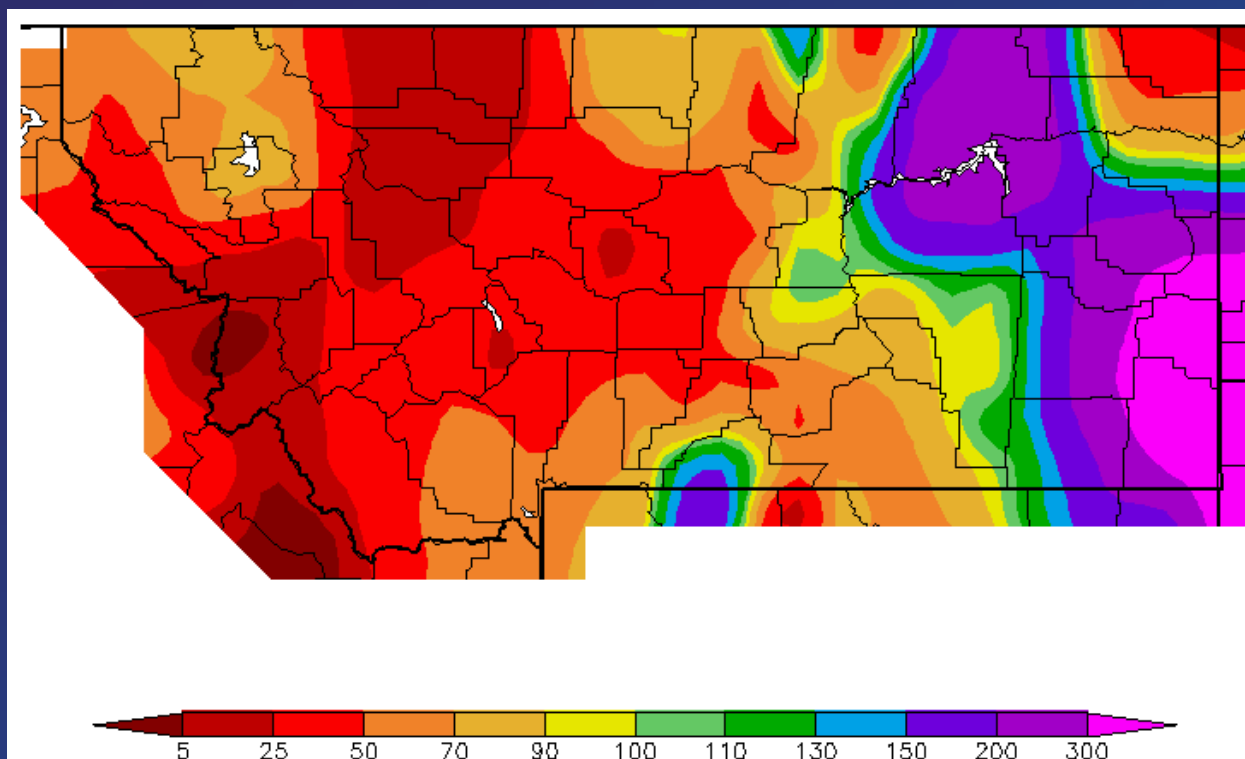
May 1 - 18

- Temperatures averaging below normal
- High temperatures
 - *Isolated area with highs 8 to 10 degrees below normal southeast*



Percent of Average Precipitation

May 1 - 18



- Dry west and central... wet east
- Most of western half of Montana well below normal
 - Large areas west and along Rocky Mountain Front received less than 25% of normal precipitation for the month so far
 - Large areas east have received more than 150% of normal

Precipitation Totals

May and Water Year 2008

	ACTUAL PCPN	MAY 1 - 18 NRML PCPN	+/- NRML	% OF NRML	WATER YEAR TO DATE ACTUAL PCPN	NRML PCPN	+/- NRML	% OF NRML
WESTERN MONTANA								
BUTTE	0.38	1.10	-0.72	35	3.67	5.87	-2.20	63
KALISPELL	0.75	1.08	-0.33	69	6.30	10.09	-3.79	62
MISSOULA	0.16	0.92	-0.76	17	4.96	6.49	-1.53	76
MULLAN PASS	0.34	1.66	-1.32	20	31.74	36.57	-4.83	87
SOUTHWEST MONTANA								
BIG SKY	1.53	1.35	0.18	113	15.93	11.27	4.66	141
BOULDER	0.44	1.08	-0.64	41	3.78	4.66	-0.88	81
BELGRADE FIELD	0.46	1.34	-0.88	34	6.82	7.39	-0.57	92
BOZEMAN MSU	1.10	1.79	-0.69	61	11.91	10.29	1.62	116
DILLON AIRPORT	0.42	1.00	-0.58	42	3.82	4.17	-0.35	92
ENNIS	0.70	1.18	-0.48	59	9.21	6.37	2.84	145
HELENA	0.48	0.99	-0.51	48	3.49	5.01	-1.52	70
LIMA	0.25	1.19	-0.94	21	2.08	5.48	-3.40	38
ROGERS PASS 9 NNE	0.25	1.84	-1.59	14	4.60	8.59	-3.99	54
TOWNSEND	0.22	0.89	-0.67	25	3.04	4.12	-1.08	74
WISDOM	0.50	0.92	-0.42	54	7.01	5.95	1.06	118

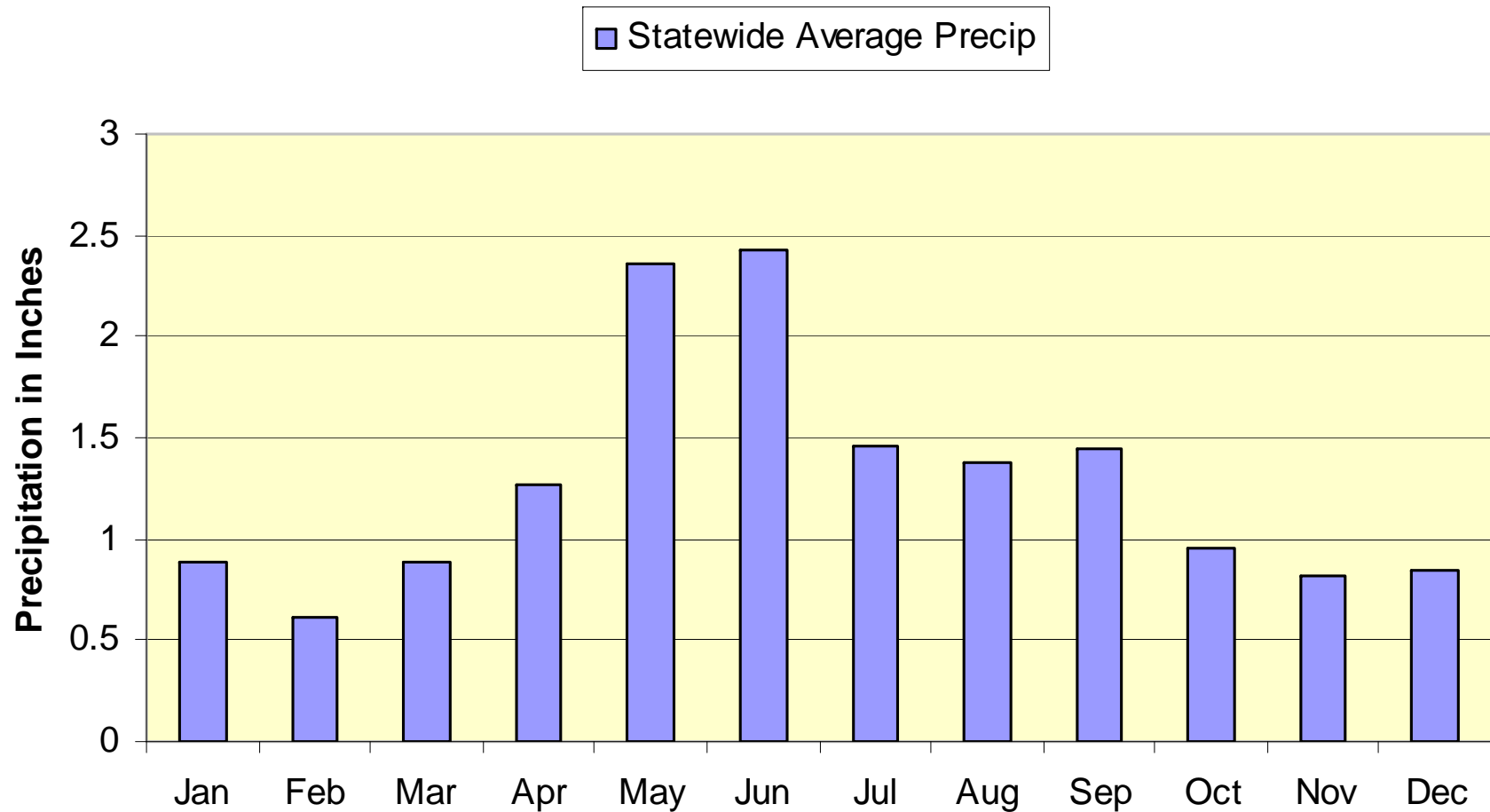
Precipitation Totals

May and Water Year 2008

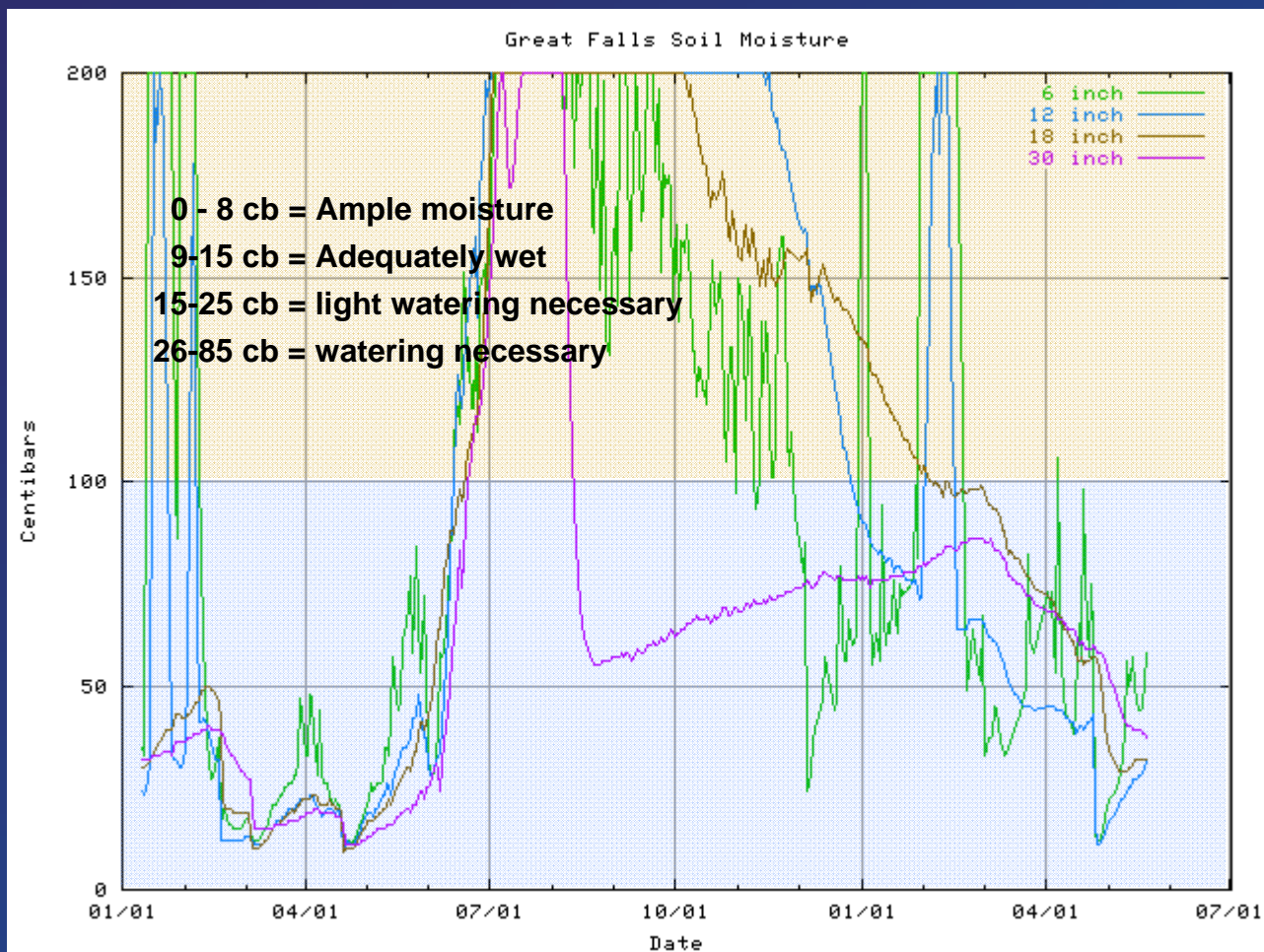
	ACTUAL	MAY 1 - 18			WATER YEAR TO DATE			
	PCPN	NRML	+/-	% OF	ACTUAL	NRML	+/-	% OF
	PCPN	PCPN	NRML	NRML	PCPN	PCPN	NRML	NRML
CENTRAL MONTANA								
BILLINGS	0.68	1.44	-0.76	47	4.91	8.32	-3.41	59
CASCADE 20 SSE	0.39	1.47	-1.08	27	6.37	6.17	0.20	103
CHESTER	0.36	0.90	-0.54	40	3.30	4.01	-0.71	82
CHINOOK	1.00	1.25	-0.25	80	3.75	5.30	-1.55	71
CHOTEAU	0.27	1.04	-0.77	26	5.59	3.82	1.77	146
CONRAD	0.09	1.14	-1.05	8	3.37	5.12	-1.75	66
CUT BANK	0.14	1.15	-1.01	12	1.27	4.49	-3.22	28
FORT ASSINNIBOINE	0.73	1.15	-0.42	63	2.70	5.37	-2.67	50
GOLD BUTTE 7 N	0.30	1.12	-0.82	27	4.37	5.34	-0.97	82
GRASS RANGE	1.30	1.65	-0.35	79	5.67	7.35	-1.68	77
GREAT FALLS	0.37	1.37	-1.00	27	5.06	7.19	-2.13	70
HARLEM	0.54	1.05	-0.51	51	2.47	4.24	-1.77	58
HAVRE	0.82	0.98	-0.16	84	2.51	4.96	-2.45	51
LIVINGSTON	0.87	1.54	-0.67	56	6.64	7.59	-0.95	87
LEWISTOWN	0.57	1.56	-0.99	37	4.21	8.19	-3.98	51
MARTINSDALE 3 NNW	0.34	1.18	-0.84	29	4.36	5.69	-1.33	77
MILLEGAN	1.17	1.53	-0.36	76	9.77	9.01	0.76	108
NEIHART 8 NNW	1.33	1.93	-0.60	69	10.43	10.14	0.29	103
SHELBY	0.13	0.91	-0.78	14	3.15	3.16	-0.01	100
STANFORD	0.58	1.54	-0.96	38	4.34	7.52	-3.18	58
VALIER	0.11	1.14	-1.03	10	2.44	4.45	-2.01	55
WHITE SULPHUR SPRGS	0.47	1.25	-0.78	38	4.84	6.02	-1.18	80
EASTERN MONTANA								
GLASGOW	2.14	0.88	1.26	243	5.76	4.20	1.56	137
MILES CITY	1.78	1.18	0.60	151	2.44	6.08	-3.64	40

Statewide Average Precipitation

May second wettest month ... nearly double of April



Great Falls Soil Moisture



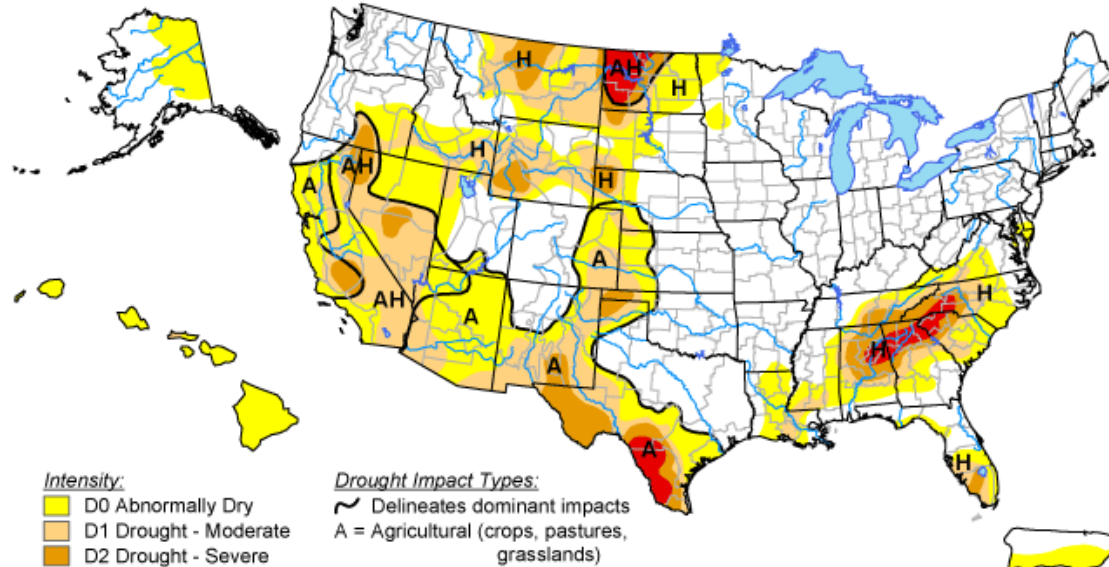
- All levels moistening with recent precipitation events
- 6 and 12 inch readings show drying quickly after the event
- Running drier than same time in 2007

National Drought Monitor

Issued May 13, 2008

U.S. Drought Monitor

May 13, 2008
Valid 8 a.m. EDT

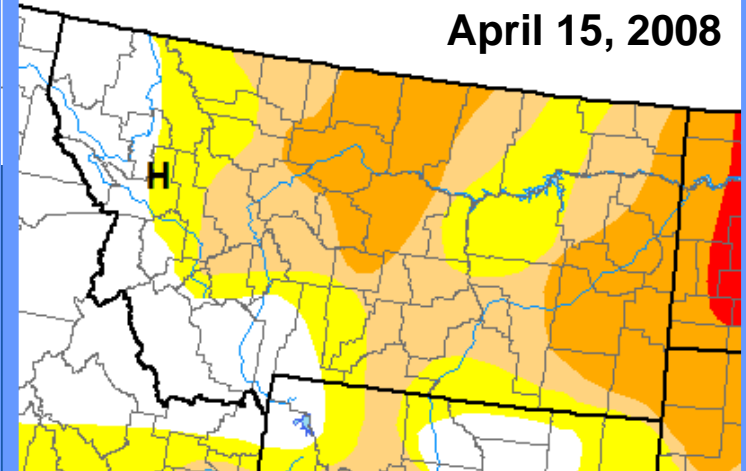
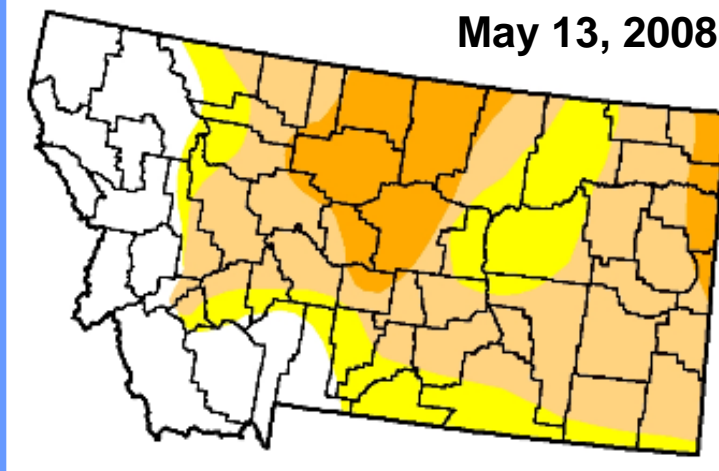


The Drought Monitor focuses on
Local conditions may vary. See
for forecast statements.

<http://drought.unl.edu>

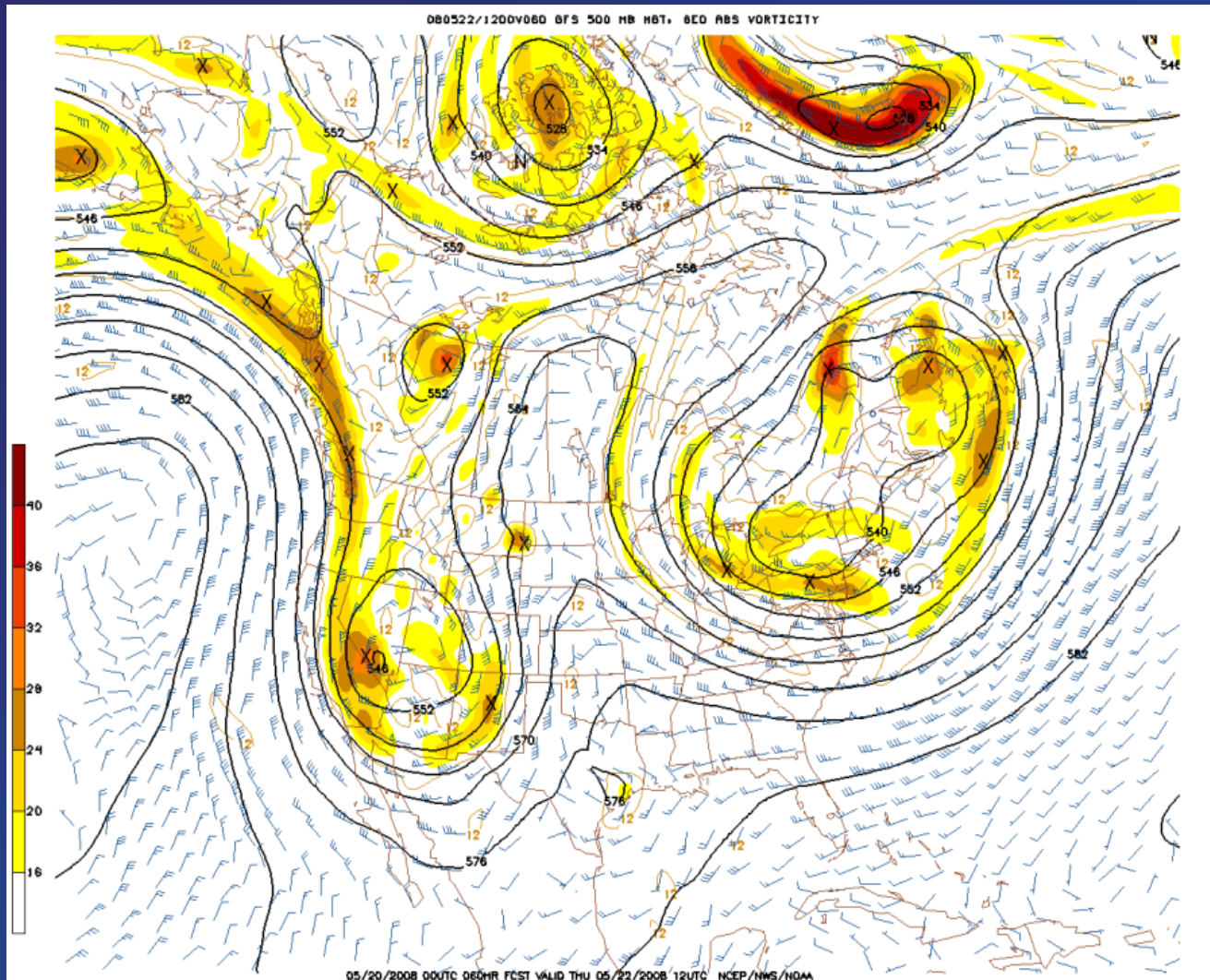
- Montana east of the Divide ranging from D0 (Abnormally Dry) to D2 (Severe Drought)
- Some improvement noted since last month... mainly east

- Reduction of the D2 (Severe) east
- Reduction of the D1 (Moderate) west



Thursday Morning Outlook

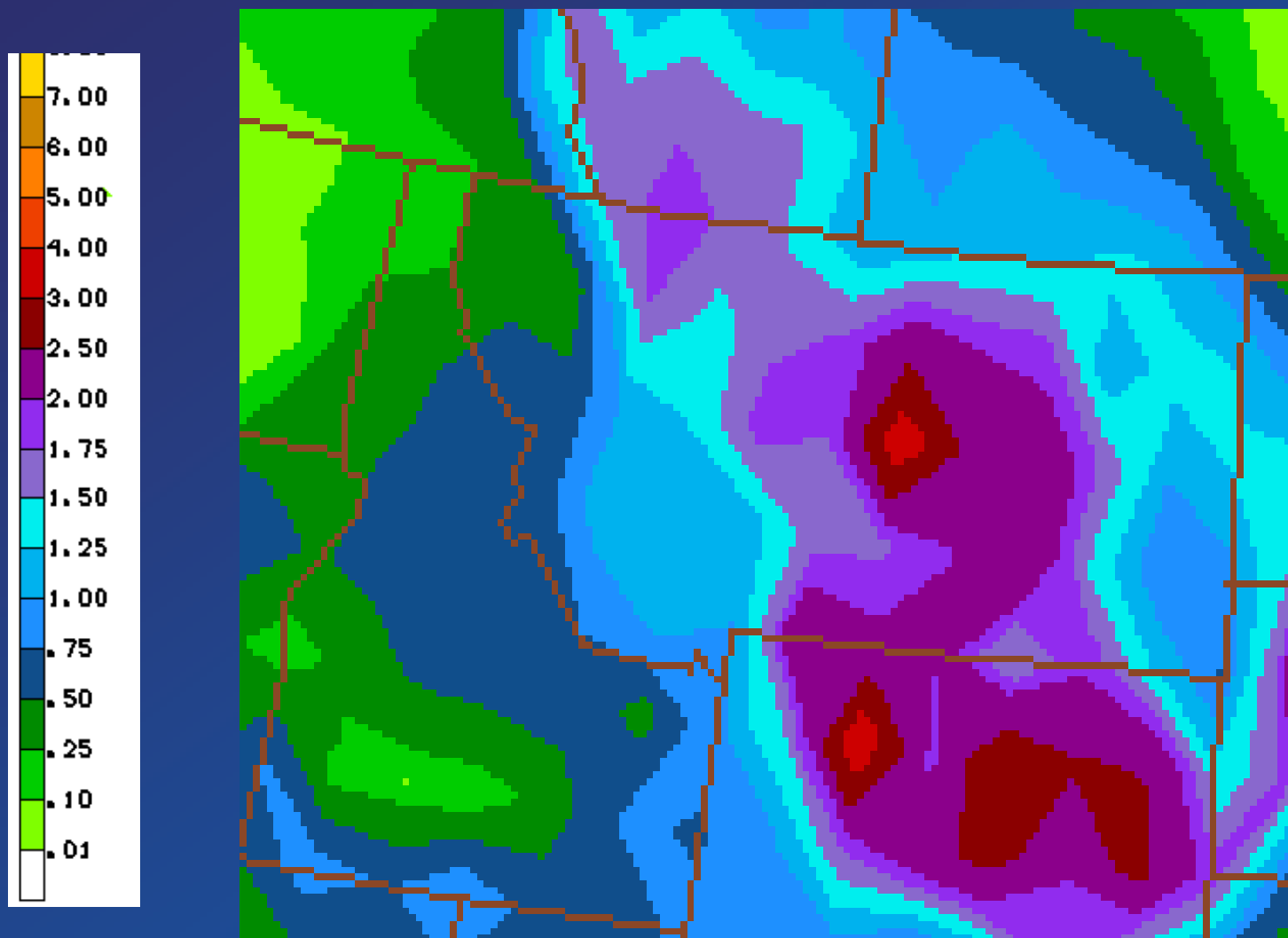
500mb Heights and Anomalies



- Deep, cold low pressure trough moving across western U.S. and Montana

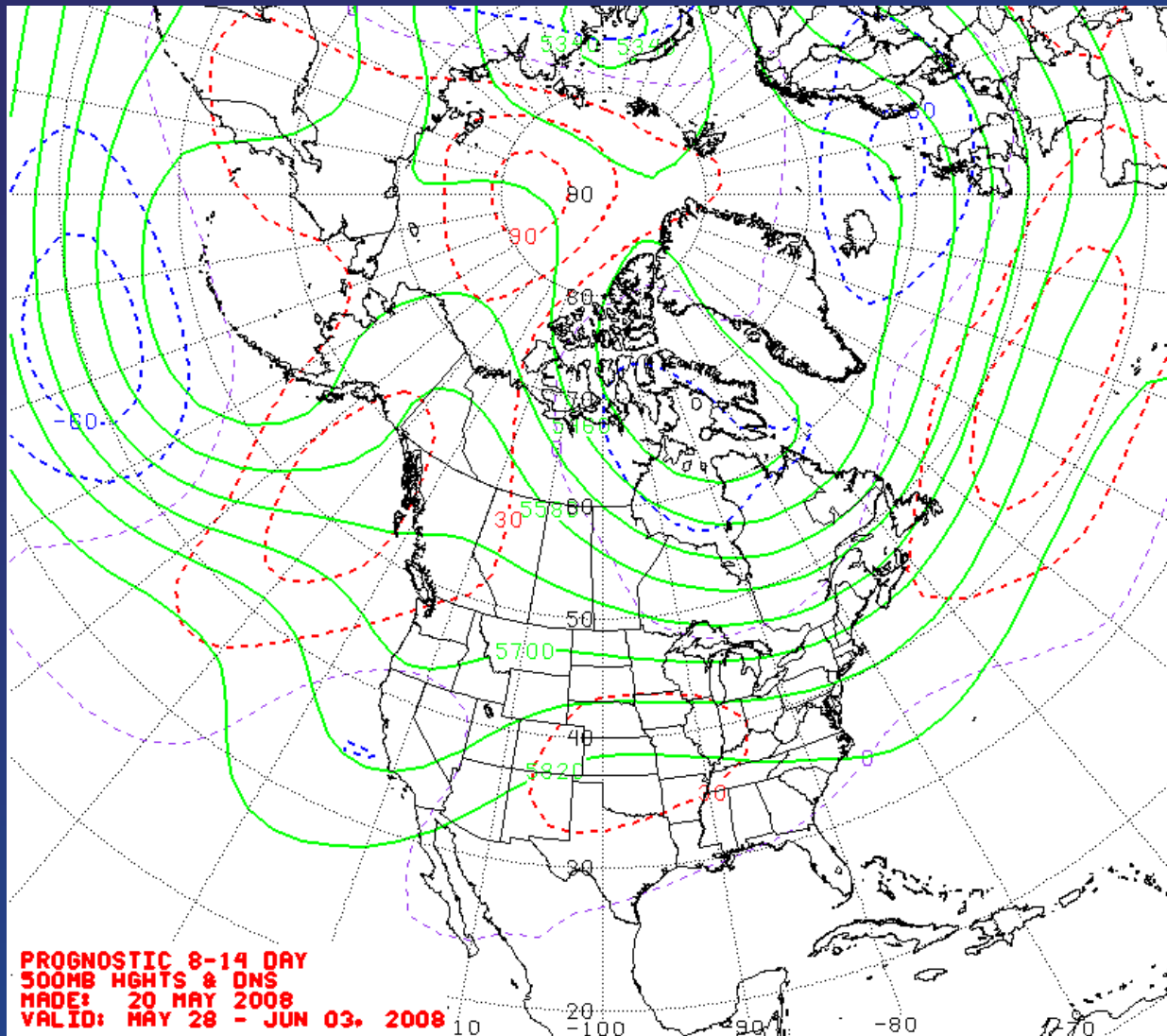
Precipitation Outlook

60-Hour Total Ending Friday Night



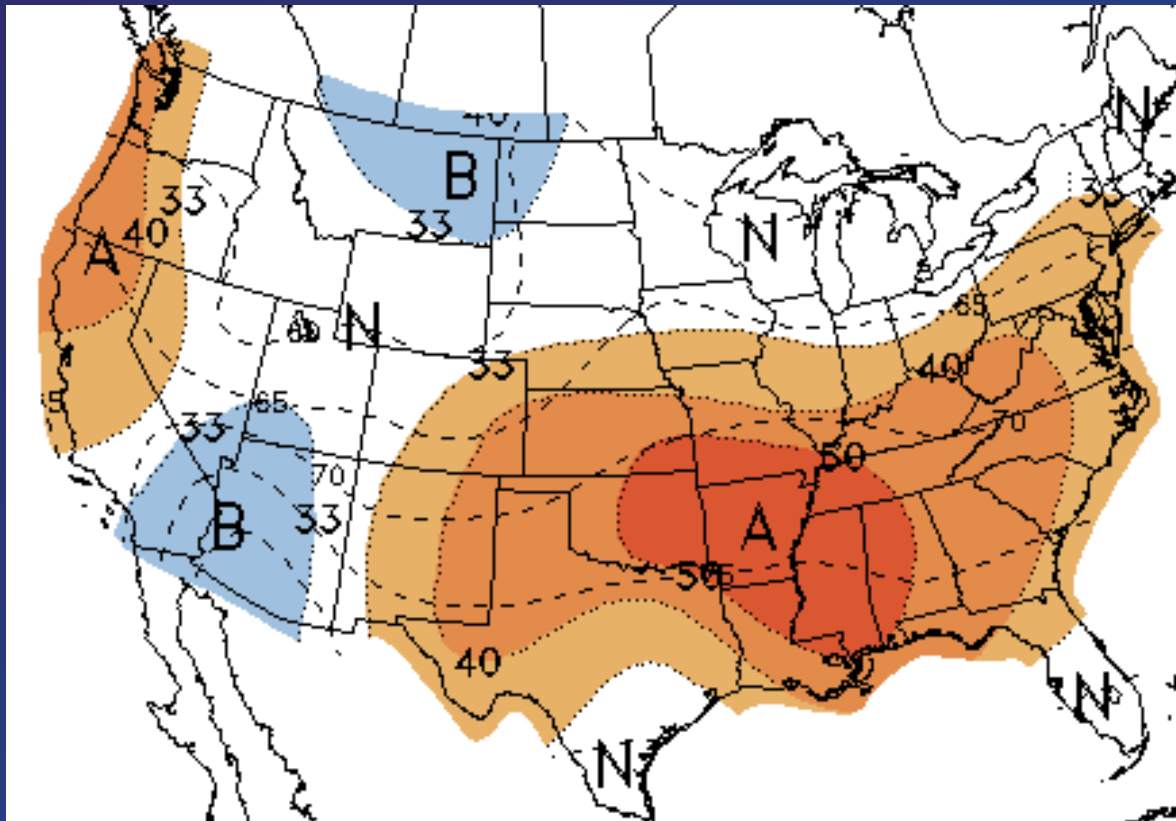
8 to 14 Day Outlook

500mb Heights and Anomalies



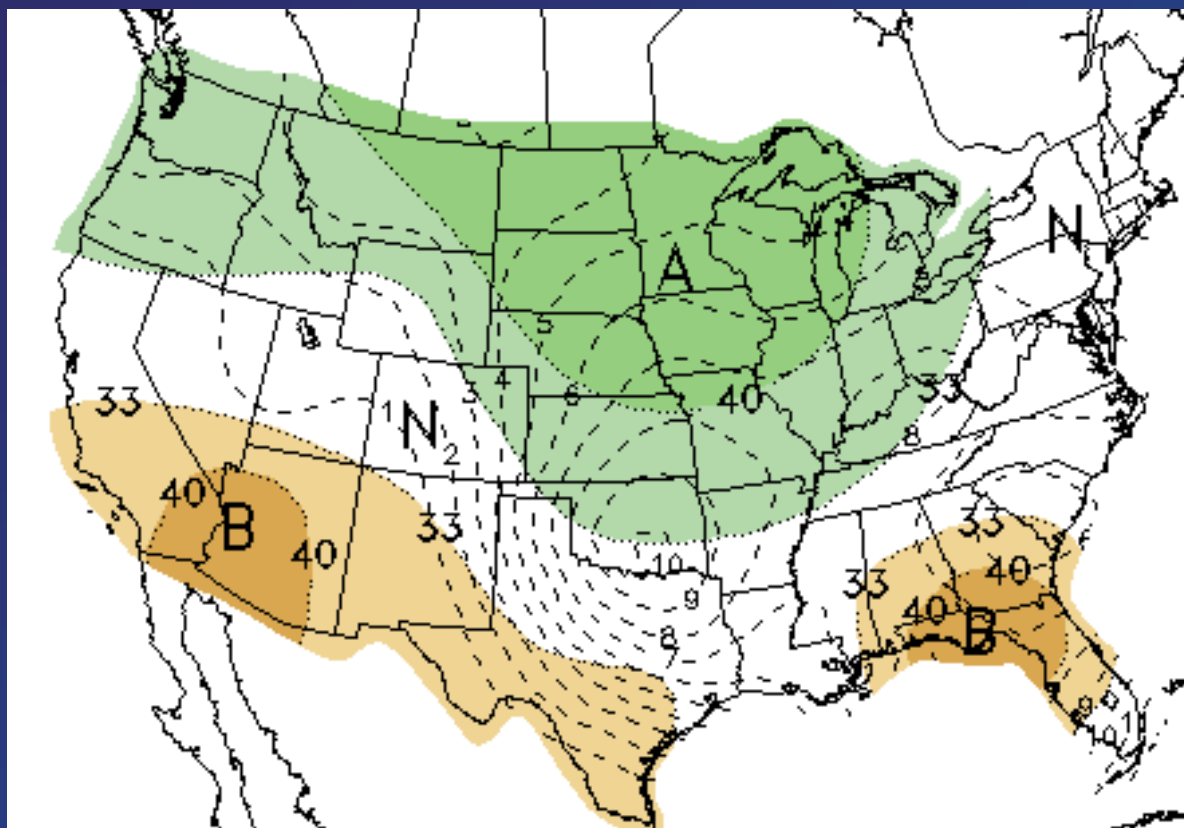
- Split flow aloft across Pacific Northwest and into Montana

8 to 14 Day Outlook – Temperatures



- May 28 – June 3
- 33% to 40% chance temperatures will be below normal over north central and eastern Montana
- Averages
 - *Highs in the mid 60s to near 70*
 - *Lows in the mid 30s to near 40*

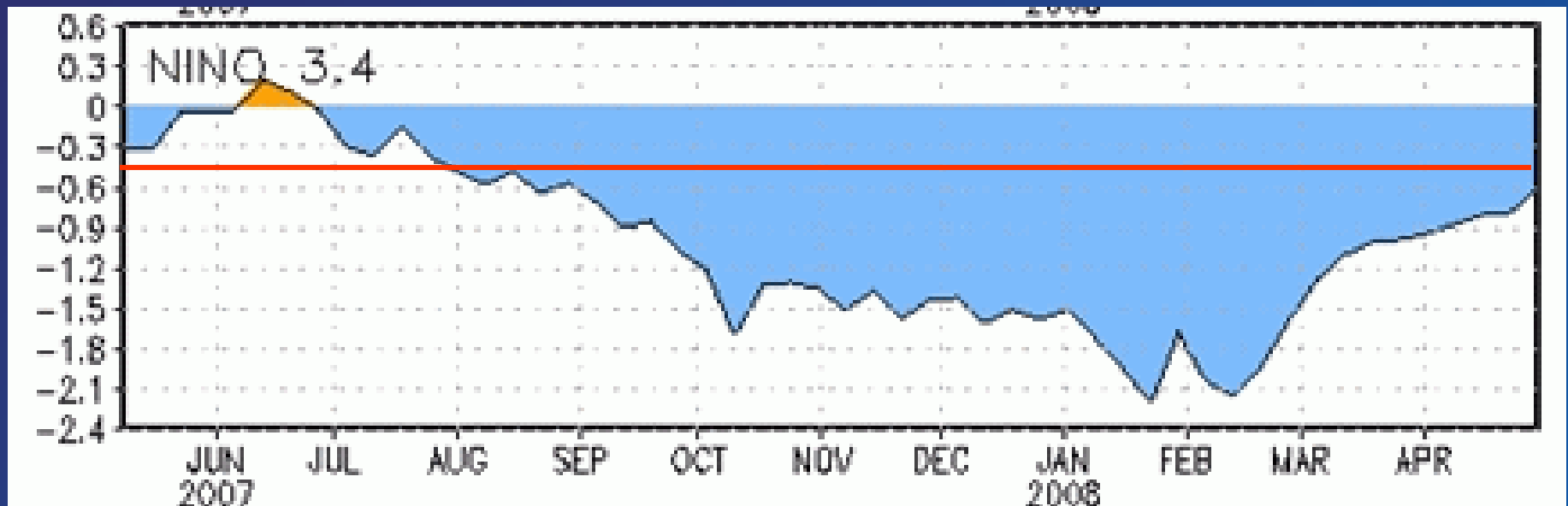
8 to 14 Day Outlook – Precipitation



- 💧 **May 28 – June 3**
- 💧 **Better chances for above normal precipitation across Montana**
 - **33% to 40% chance of west...central and south central**
 - **40% to 50% chance northeast**
- 💧 **Normals**
 - **~2.00 – 3.00 inches**

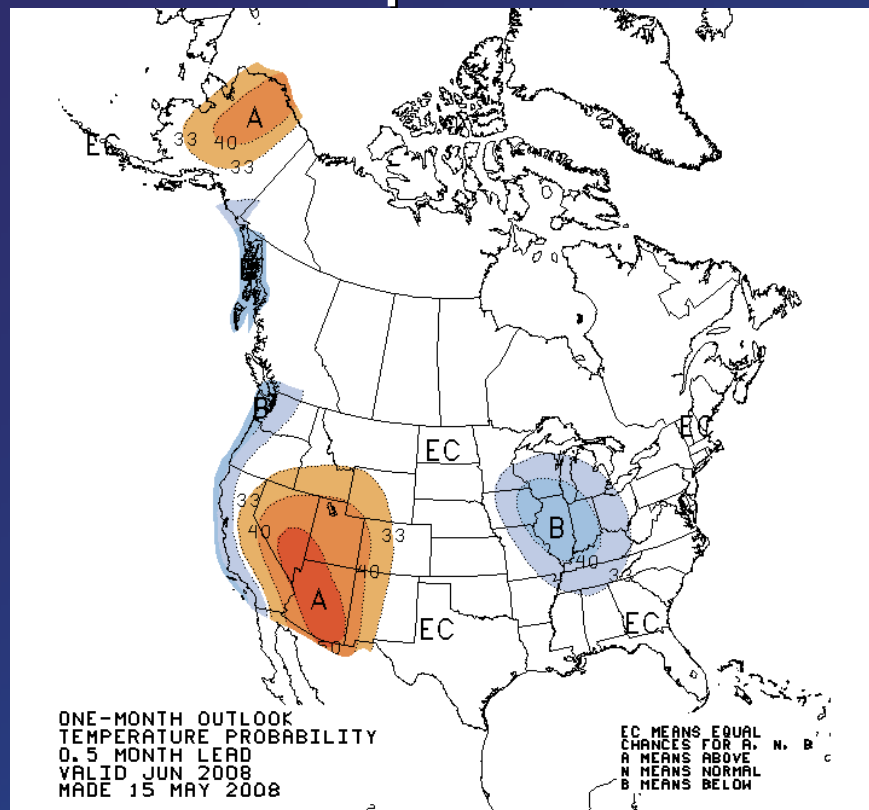
El Niño / La Niña

- 💧 A transition from La Niña to ENSO-neutral conditions is possible during June- July 2008.



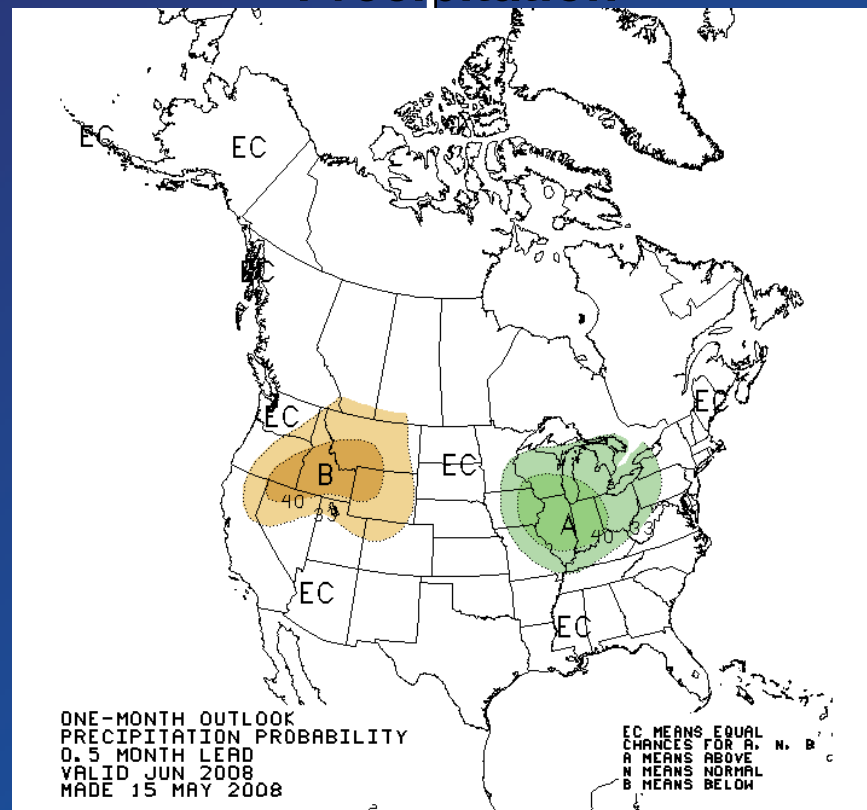
June Outlook

Temperature



- No forecast skill... equal chances temperatures will be above... below or near normal across Montana

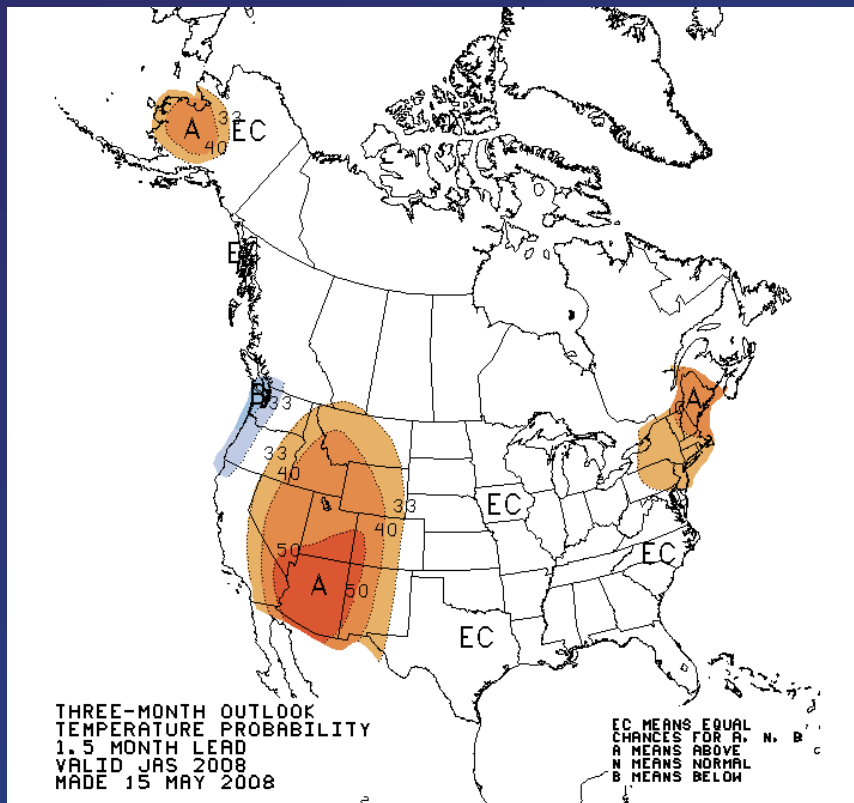
Precipitation



- Better chances for below normal precipitation across Montana
 - 33% to 40% chance for below normal precipitation north and east
 - 40% to 50% chance for below normal southwest and south central

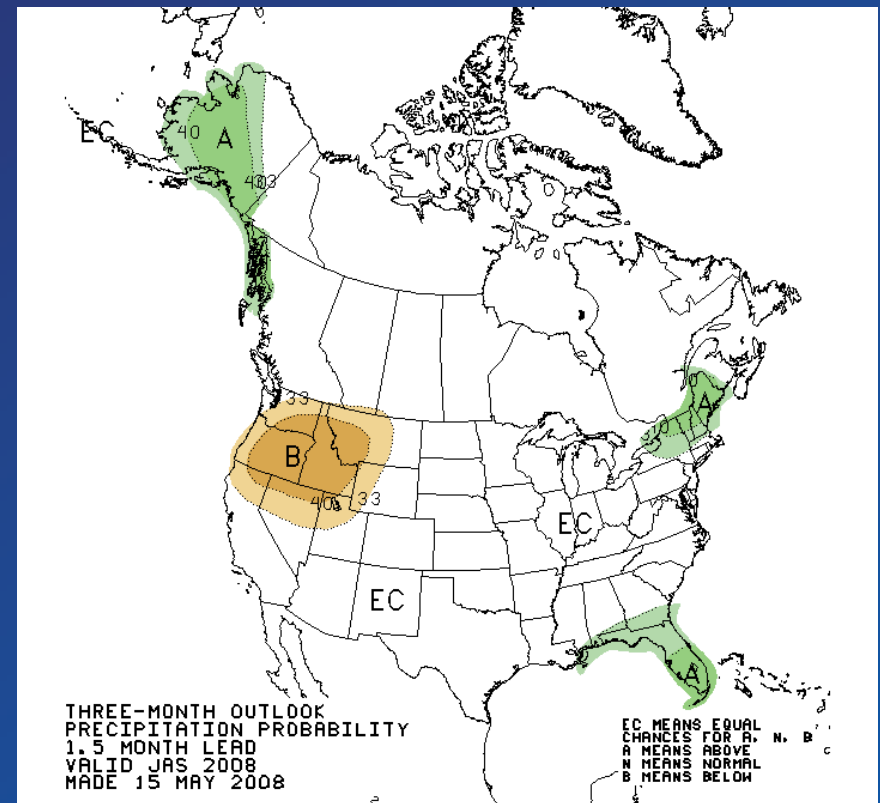
July - September Outlook

Temperature



- Better chances temperatures will be above normal over most of Montana
 - 33% to 40% chance north ... central and southeast
 - 40% to 50% chance southwest

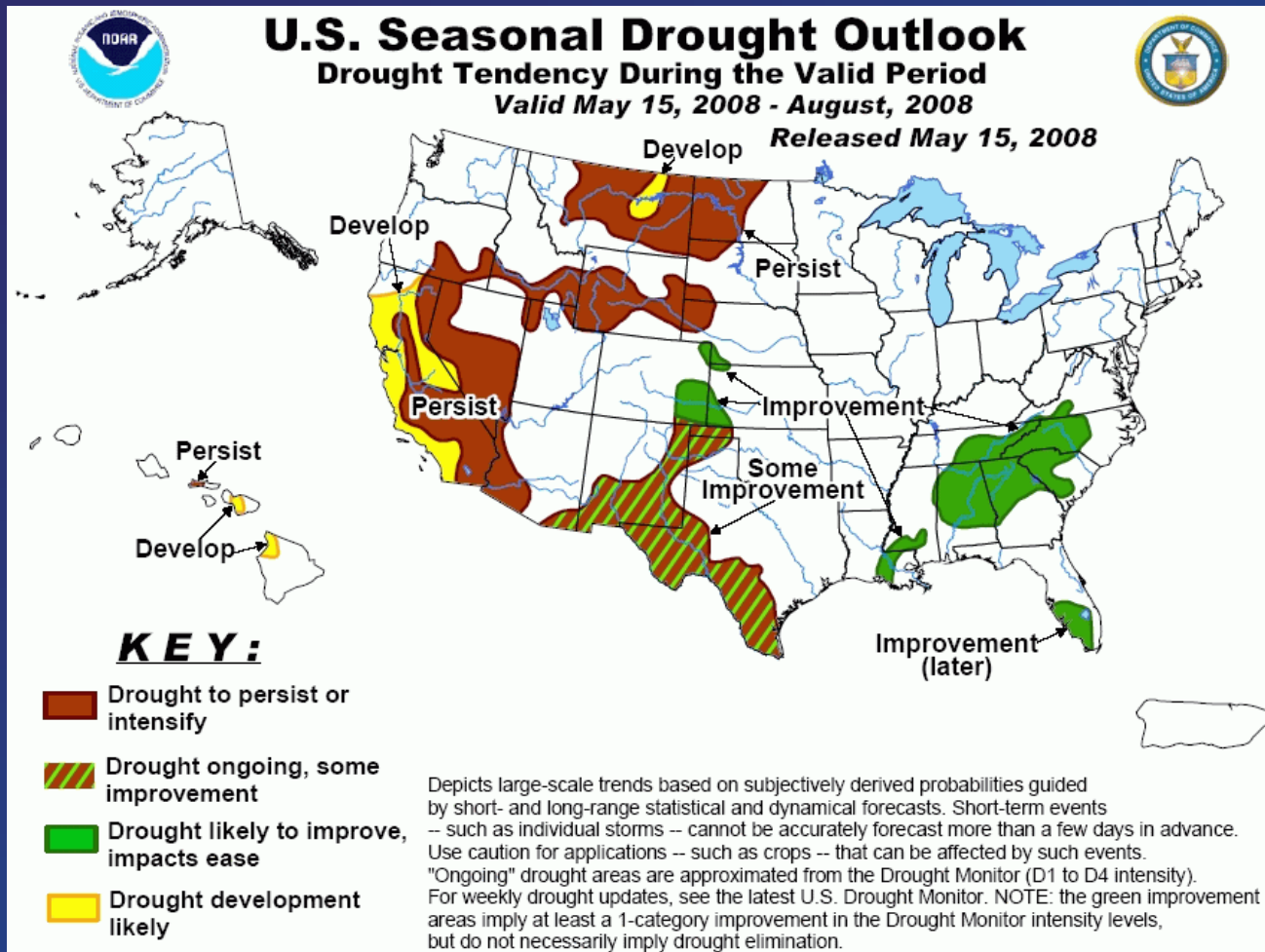
Precipitation



- Better chances precipitation will be below normal over western Montana
 - 33% to 40% chance northwest... central and south central
 - 40% to 50% chance west and southwest
- East shows no forecast skill...
 - Equal chances precipitation will be above... below or near normal

Drought Outlook through July

Issued May 15, 2008



- Current areas in drought status expected to see little improvement during the summer

In Summary...

- 💧 **April drier than normal for most of Montana**
- 💧 **May has seen some significant precipitation in some of our drier areas**
 - *East and southeast*
- 💧 **Currently in our first of two wettest months of the year**
 - *East has not been disappointed*
 - *Storm this week should bring rain to much of the state*
- 💧 **Drought Outlook indicates persistence expected through much of the summer... this based largely on outlook of below normal precipitation**
- 💧 **Montana Hydrology Conference will be held next week**
 - *May 27-29*
 - *Theme “Water Supply”*
 - *Everyone welcome*

drought.gov

NIDIS Public Community - Mozilla Firefox

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http://www.drought.gov/portal/server.pt nidis portal

MODIS 30days FFMP Basins AHPS CMS WHFS Water Reservoir Stora... TFX Graphs Login for National We... Department of Comme... AWDC

Other Drought-related Sites Drought Monitor NIDIS Public Community

National Integrated Drought Information System drought.gov

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Navigate drought.gov

- What is NIDIS?
- Current Drought
- Forecasting
- Impacts
- Planning
- Education
- Research

Area Information

Select State... >> Go

Select Region... >> Go

Maps & Tools

>> GIS Resources

Welcome to drought.gov!

Icon - Impacts
How is the Drought Affecting Me?

Will the Drought Continue?

Where are Drought Conditions Now?

U.S. Drought Monitor

April 8, 2008
2008 Apr 8 12Z

Released Thursday, April 10, 2008
Author: Rick Thaler, Climate Prediction Center, NOAA
http://drought.unl.edu/dm

Drought Conditions

% Area for U.S., including, AK, HI & PR
(As of 4.8.2008)

Info Source: National Drought Mitigation Center

Drought Condition	% Area
D0 Abnormally Dry	2.19%
D1 Drought - Moderate	4.49%
D2 Drought - Severe	15.57%
D3 Drought - Extreme	21.85%
D4 Drought - Exceptional	55.9%

View Time Series - Last 12 months

What's New

- ** drought.gov - New Release! **
- Southeast Drought Workshop
- Status of Drought Early Warning Workshop - June 2008

Drought News

- Southeast drought eases, but concern remains - USATODAY.com
- Do Trees Worsen Droughts? : NPR
- NOAA - National Oceanic and Atmospheric Administration - Current Major Flooding in U.S. a Sign of Things to Come
- Los Angeles Times: More changes that help conserve water at home
- U.S. Spring Season Forecast: More Record Floods Environment News Service (ENS)

NIDIS Feature

Southeast Drought Workshop

April 29-30, 2008

weather.gov

weather.gov/billings

weather.gov/glasgow

weather.gov/missoula

weather.gov/greatfalls



Missouri River near Cascade